

DYNAMIC MEASUREMENTS NEAR THE LAMBDA-POINT IN A LOW-G SIMULATOR ON THE GROUND

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The properties of liquid helium very near the lambda-transition in the presence of a heat current has received recent theoretical and experimental attention. In this regime, gravity induced pressure effects place severe constraints on the types of experiments that can be performed. A new experiment is described which largely overcomes these difficulties by magnetostrictively cancelling gravity influences in the helium sample with a suitable magnetic coil. Design limitations of the technique and a discussion of proposed experiments is presented.

PACS numbers: 05.70.Fh, 05.70.Ln